

**Technical data Part-turn actuators for open-close and modulating duty**

Type	Torque range		Operating time for 90° in seconds	Motor protection <sup>2)</sup>	Valve attachment	Handwheel	Weight
	Open-close duty max. [Nm]	Modulating duty max. [Nm]					
ED 25	25	25	15	B	F03, (F04) <sup>4)</sup> , F05, F07	–	4.0
			30	B			
			70	B			
ED 50	50	50	15	T	F03, (F04), F05, F07	–	4.0
			30	B			
			70	B			
EQ 40	40	20	15	B	(F04) <sup>4)</sup> , F05, F07, F10	100	7.5
			30	B			
			60	B			
EQ 60	60	40	20	T	F05, F07, F10	100	7.5
			30	T			
			60	B			
EQ 100	100	60	20 <sup>3)</sup>	B	F05, F07, F10	100	7.5
			30	T			
			60	T			
EQ 150	150	80	20 <sup>3)</sup>	T	F05, F07, F10	100	7.5
			30 <sup>3)</sup>	B			
			60	T			
EQ 300	300	180	40 <sup>3)</sup>	T	F07, F10, (F12) <sup>4)</sup>	100	15
			80 <sup>3)</sup>	B			
			160	T			
EQ 600	600	300	80 <sup>3)</sup>	T	F07, F10, (F12) <sup>4)</sup>	100	15
			160 <sup>3)</sup>	B			

**General information**

Part-turn actuators for controlling and automating final elements within the field of process engineering with swivel movements between 90° and 180° for e.g. butterfly valves, ball valves.

**Notes on table**

1) 50 Hz	For 60 Hz, operating time reduces and power consumption increases by 20 %
2) Motor protection	B = stallproof motor (S1 - 100 %), T = thermoswitch for temperature monitoring
3)	Aluminium hood required for optional positioner
4)	Offset by 45°, F12 on request

**Features and functions of actuator**

Type of duty	Open-close duty:	Short-time duty S2 - 15 min, class A								
	Modulating duty:	Intermittent duty S4 - 50 %, with maximum number of starts of 1,200 starts per hour Intermittent duty S1 - 100 % with maximum number of starts of 1,200 starts per hour; not available for all versions (option)								
Motor	Synchronous motor									
Mains voltage, mains frequency	Standard voltages:									
	<b>1-phase AC current</b> Voltages/frequencies									
	Volt	230	220							
	Hz	50	60							
	Options:									
	<b>3-phase AC current</b> Voltages/frequencies					<b>1-phase AC current</b> Voltages/frequencies				
	Volt	380	400	400	440	Volt	24	24	115	110
	Hz	50	50	60	60	Hz	50	60	50	60
	<b>DC current</b> Voltages									
	Volt	24								
	Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 % Further supply voltages on request									

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

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Insulation class	E, B, F		
Motor protection	Stallproof motor or thermoswitch for temperature monitoring		
Heater (option)	Heating resistor with thermoswitch against moisture with automatic temperature regulation, max. 15 Watt, supply voltage 24, 115, 230 V/50/60 Hz [HZ/WP]		
Self-locking	Yes		
Swing angle (option)	Standard:	EQ:	90° ±15°
		ED:	90°, 120°, 150°, 180°
	Options:	EQ:	120° ±15°
	[SWE]		150° ±15° 180° ±15°
Cable entry	EQ:	3 blanking plugs M20 x 1.5	
	ED:	2 blanking plugs M16 x 1.5	
Manual operation	EQ:	Handwheel	
	ED:	Emergency manual operation with hexagon socket	
Electrical connection	Standard:	Internal terminal rail, for terminal assignment refer to terminal plan	
	Options:	<ul style="list-style-type: none"> <li>Separate electrical terminal compartment at actuator with 32-pole terminal rail [ASK]</li> <li>Compact connector 10-pole silver/24-pole silver [KS1, KS3]</li> </ul>	
End positions	EQ:	Mechanical end stops, adjustable from outside	
	ED:	None	
Hood	Standard:	Polycarbonate (flammability class V0)	
	Option:	Aluminium with inspection glass	
Local controls (option), IP66	<ul style="list-style-type: none"> <li>MANUAL/AUTO change-over</li> <li>Rotary switch (non latching) for OPEN and CLOSE [VSE]</li> </ul>		

### With base and lever (option for EQ)

Lever size	<ul style="list-style-type: none"> <li>With lever size 100 mm (distance from axis to bore) [LAG-HEB]</li> <li>With lever size 150/200 mm</li> </ul>
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### Features and functions of actuator controls

Limit switching (digital outputs)	Standard:	2 switches, max. 250 V AC, max. 10 A (resistive load), max. 5 A (inductive load)	
	Options:	<ul style="list-style-type: none"> <li>Additional limit switches for signalling end positions or intermediate positions, freely adjustable max. 250 V AC, max. 10 A (resistive load), max. 5 A (inductive load), 2 switches [2WE]</li> <li>Additional limit switches for signalling end positions or intermediate positions, freely adjustable with gold-plated contacts for low voltage, max. 30 V AC, max. 0.1 A (resistive load), 2 switches [2WE-G]</li> </ul>	
Torque switching (digital outputs)	EQ:	Standard:	2 switches, max. 250 V AC, max. 10 A (resistive load), max. 5 A (inductive load)
		Option:	2 additional potential-free torque switches [2DE]
	ED:	None	
Digital inputs	Standard:	None	
	Options:	With 2 inputs (reversing contactors) for OPEN and CLOSE, option for: <ul style="list-style-type: none"> <li>24 V DC; 1,7 W appropriate for PLC [WSE]</li> <li>24 V AC/DC</li> <li>110 V AC</li> <li>230 V AC</li> </ul>	
Positioner (option)	Positioning electronics for actuator control [PEL100, PEL-GL] Input 0 – 10 V, 0/4 – 20 mA, Output 0 – 10 V, 0/4 – 20 mA		
Position feedback signal, analogue (options)	<ul style="list-style-type: none"> <li>Potentiometer 100/130/200/500/1,000/5,000 Ω or 10 kΩ [POT] Linearity fault ≤ 0.5 %, max. 1.5 W, wiper current 30 mA, max. 2 units</li> <li>Electronic position feedback, 2/3-wire system [ESR100] output 0/4 – 20 mA, supply voltage 24 V DC</li> </ul>		
Fieldbus (option)	Profibus DP-V0 for actuator control in housing IP66 [PBD100] Mounted to actuator with plug/socket connector M12, 5-pole, 2 x M20 cable glands		

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Emergency operation module (option)	
Emergency operation module	<ul style="list-style-type: none"> <li>• 250 Nm, supply voltage 24 V DC [FSC20-24]</li> <li>• 250 Nm, supply voltage 90 – 264 V AC [FSC20-230]</li> <li>• 450 Nm, supply voltage 90 – 264 V AC [FSC40-230]</li> </ul>

Service conditions	
Mounting position	Any position, but not suspended downward
Installation altitude	≤ 2,000 m above sea level > 2,000 m above sea level, on request
Ambient temperature	Standard: –20 °C to +70 °C
	Options: –40 °C to +70 °C
	Other options on request
Enclosure protection according to EN 60529	Standard: IP67
	Option: IP68 [A-IP68]
Explosion-protection (option)	Ex II 3D IP65 T 150°C Dc [A-Ex]
Corrosion protection	Standard: C2 according to EN ISO 12944-2
	Option: C3/C4 according to EN ISO 12944-2
Coating	Standard: Powder coating
	Option: Special painting for corrosion protection C3/C4
Colour	Standard: AUMA silver-grey (similar to RAL 7037)
	Option: Available colours on request
Lifetime	AUMA part-turn actuators meet or even exceed the lifetime requirements of EN 15714-2. Detailed information can be provided on request.

Further information	
Inspection certificate	On request
EU Directives	Electromagnetic Compatibility (EMC): (2014/30/EU) Low Voltage Directive: (2014/35/EU) Machinery Directive: (2006/42/EC)
Reference documents	Dimensions Part-turn actuators EQ 40 – EQ 600 Dimensions Part-turn actuators ED 25 – ED 50 Electrical data Part-turn actuators EQ 40 – EQ 600 Electrical data Part-turn actuators ED 25 – ED 50